



Government of India
Ministry of Agriculture
Department of Agriculture & Cooperation
Directorate of Plant Protection, Quarantine & Storage
Central Insecticide Board & Registration Committee
N.H. IV, Faridabad-121 001

MAJOR USES OF PESTICIDES
Registered under the
Insecticides Act, 1968
2009

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APPROVED USES OF REGISTERED PESTICIDES

(AS ON 07.11.2009)

I. PLANT GROWTH REGULATORS (PGR)

Name of PGR & approved Crops	Time of application / purpose	Dosage /ha		Dilution In Water (Litres) / Preparation of solution	Waiting period / PHI between last application & harvest (days)
		a.i. (ppm/gm/%)	Formulation (ml/gm/Ltr/kg/%)		
Alpha Naphthyl Acetic Acid 4.5% SL (Na salt)					
Tomato	At the time of flowering two spray.	45ppm	-	-	-
Chillies	Ist spray during flowering & 2 nd spray 20 -30 days later.	10ppm	-	-	-
Mango	Ist spray when tender fruits one of pea size. 2 nd spray when fruits one of marble size(about 2 cm diameter)	20ppm	-	2 ml in 4.5litre.	-
	<u>To control Mango malformation</u> - Before fruit bud differentiations approx.3 months before flowering	200ppm	-	20 ml in 4.5 ltrs.	-
Grapes	(a)To increase size & weight of barries. - Ist sprays at pruning time. - 2 nd spray when flowering shoot appear	10ppm	-	2 ml in 49 ltrs.	-
	(b)To control berry drop (spray on matured grape bunches 10-15 days before harvesting.)	100ppm	-	20 ml. in 49 ltrs.	-

Pineapple	<u>(a)To induce flowering and uniform growth</u>	10ppm(In dry eather half strength solution i.e. 5 ppm may be used)	-	1 ml in 4.5 ltrs (pour 30-50 ml of solution in to the head of each plant)	-
	(b)To increase fruit size.	199ppm	-	10 ml in 4.5 ltrs.(spray to wet the whole plant)	-
	(c) To delay maturity - Two weeks before harvest.	100ppm	-	10 ml in 4.5 ltrs.(Wet the whole fruit 2 weeks before harvest.)	-
Cotton	To prevent shedding of flower squares & bolls (3 sprays at 15 days interval from square formation stage	10-20 ppm.	222-444 ml	1000 ltr.	
Chlormequat Chloride 50% SL					
Brinjal	Before sowing, seed soaking for 24 hours.	50ppm	-	-	-
Cotton (American)	square formation to early flowering – single spray	20-40 gm	-	375-600(high volume) 125-187 (low volume)	-
Cotton (Deshi)	Square formation to early flowering – single spray	75gm	-	375-600 ltrs .	-

Grapes	pre-bloom stage	600-1000ppm	-	600-1000 ltrs.	-
Potato	Dipping of cut pieces for 10 minutes	100 ppm.	-	-	-
Ethephon 39% SL					
Mango	a)for breaking alternate bearing and to increase yiled Total 5 sprays, Ist spray in mid October or early November & Subsequent sprays at fortnightly interval	200ppm	-	-	-
	b)for flower induction in juvenile mango Total 5 sprays at weekly interval commencing from early November.	1000 ppm	-	-	-
	(c)Post harvest treatment for uniform ripening Single dip treatment or spraying on physiologically matured fruits.	500ppm	-	-	-
Pineapple	For flower induction One spray when there 30-37 leaves on the plant 10-12 months (approx.)	100ppm	-	-	-
Coffee (Arabica)	For uniform ripening of berries, One spray at fly pricking stage ,when 10-15% berries are ripened.	192ppm	-	-	-
Coffee (Robusta)	For uniform ripening of berries, One spray at fly	96ppm	-	-	-

	pricking stage ,when 10-15% berries are ripened.				
Rubber	For boosting latex yield Four times application by brushing to the tip of scrapped bark below the tapping cut during March, August , September & November .	1000ppm	-	-	-
Tomato	For uniform ripening post harvest dip treatment on fruits	2500ppm	-	-	-
Ethephon 10% Paste					
Rubber	For renewed bark 4 times bark swabbing. During March, August, September & November below the tapping panel after 4cm scrap of the bark /above the tapping panel/on the tapping cut after removing the lace.	10%	50 ml. formulation per tree directly used without dilution.	-	-
Forchlorfenuron 0.1% L (w/v)					
Grapes	Two dipping applications. 1 st When size of berry is 3-4 mm diameter and 2 nd When size of berry is 6-7 mm diameter,	2ppm.	1 ltrs.	500	60 days
Gibberellic Acid Technical					
Grape fruit	a)At full bloom (for fruit set)-single spray b) Ist week of May(For June fruit drop) –single	500-1000 ppm	-	-	-

	spray c) 1st week of October (For pre-harvest drop)- single spray				
Sweet cherry	When more than 60% buds opened fully.	40-80ppm	-	-	-
Grapes	Two directed spray 1st at full bloom & 2 nd at fruit set stages.	100ppm.	-	-	-
Grape (Seedless)	Two blanket spray at 1st full bloom & 2 nd at post bloom stage.	15-60ppm	-	-	-
Brinjal	a) seed treatment (dipping)	10ppm	-	-	-
	b) When 4 weeks old - weekly spray	50ppm	-	-	-
Gibberellic Acid 0.001% L	To increase the yield and quality of the crop produce				
Paddy	Short duration varieties 20- 25DAT Medium duration varieties 30- 35 DAT Long duration varieties 40-45 DAT	0.018 gm	180 ml	450-500	-
Sugarcane(Pla nted crops)	a)First spray 40-45 DAP b)Second spray 70-80 DAS	0.018gm	180 ml	450-500	-
Cotton	a) First spray 40-45 DAP b) Second spray: At the time of ball formation	0.018gm	180 ml	450-500	-
Groundnut	a) First spray at flowering (30-35 DAS)	0.018gm	180 ml	450-500	-

Banana	<p>b) Second spray at the time of flowering</p> <p>a) First spray 3rd month b) Second spray 5th month c) Third spray at the time of fruit formation</p>	0.027gm	270 ml.	450-500	-
Tomato / Potato / Cabbage / Cauliflower	<p>a) First spray 45 DAS b) Second spray 65 DAS</p>	0.018gm	180 ml.	450-500	-
Grapes	<p>a) First spray 30-35 days after pruning b) Second during the match head stage</p>	0.018gm	180 ml.	450-500	-
Brinjal, Bhindi	<p>a) First spray 34 DAP b) Second spray 70 DAP c) Third spray 105 DAP</p>	0.045 gm	450 ml.	450-500	-
Tea	Five spray at monthly interval.	-	270ml	450-500	-
Gibberellic Acid 0.186% SP Cotton	to improve fibre quality one spray at square formation or early flowering stage.	142ppm.	71 gm	450-500	-
Hydrogen Cyanamide 50% SL (Import) Grapes	For breaking bud dormancy Single application as spray Just after pruning ,	1-1.5%	2-3%	375-500	90-120 days

<p>Hydrogen Cyanamide 50% SL (Indigenous manufacture)) Grapes</p>	<p>For breaking dormancy of fruiting buds Just after pruning, single application by swabbing.</p>	<p>1.5%</p>	<p>1.5 ltrs.</p>	<p>Mix with 200-300 ml. of product in 10 litres of water.</p>	<p>120 days</p>
<p>Hydrogen Cyanamide 49% AS (Import) Grapes</p>	<p>For breaking bud dormancy One directed spray, just after pruning.</p>	<p>1.0-1.5%</p>	<p>2-3%</p>	<p>50 ltrs.</p>	<p>110 days</p>
<p>Mepiquat chloride 5% AS Potato</p>	<p>One spray 45 DAP To restrict the excessive vegetative growth of potato and increasing its yield</p>	<p>62.5-75gm</p>	<p>1.25-1.5Ltr</p>	<p>Mix 200-300 ml of products in 10 ltrs of water.</p>	<p>60-90 days</p>

<p>Paclobutrazol 23% SC (W/W) (25% W/V)</p> <p>Mango</p>	<p>To reduce the inter node length of new shoots and earliar formation of terminal bud. Favourably, influence the fruit bud production, fruit colour and harvest yield</p> <p>7-15yrs old</p> <p>16-25 yrs.old</p> <p>>25 yrs old Application after the harvest of fruits(Any time from July to Oct)</p>	<p>-</p> <p>-</p> <p>-</p>	<p>5-10 ltr. Per tree</p> <p>5-10 ltr. Per tree.</p> <p>20 ltr. Per tree</p>	<p>500-600</p> <p>500-600</p> <p>500-600</p>	<p>-</p> <p>-</p> <p>-</p>
<p>Triacontanol 0.05% EC</p> <p>Cotton</p> <p>Rice</p> <p>Chilli</p> <p>Tomato</p> <p>Groundnut</p>	<p>To increase the yield</p> <p>Three sprays at 45, 65 and 85 days after planting</p> <p>Three sprays at 25, 45 and 65 days after transplanting</p> <p>Three sprays at 25, 45 and 65 days after planting</p> <p>Three sprays at 25, 45 and 65 days after planting</p> <p>Three sprays at 25, 45 and 65 days after planting</p>	<p>0.125 gm</p> <p>0.125 gm</p> <p>0.125 gm</p> <p>0.125gm</p> <p>0.125 gm</p>	<p>0.25ltr</p> <p>0.25 ltrs.</p> <p>0.25 ltrs.</p> <p>0.25 ltrs.</p> <p>0.25 ltrs.</p>	<p>400-500</p> <p>400-500</p> <p>400-500</p> <p>400-500</p> <p>400-500</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Triaccontanol 0.05% w/w min. GR	To increase the yield				
Cotton	Broadcast & mix the desired quantity of granules in soil 2-3 days before sowing.	12.5 gm	25 kg.	-	-
Rice	Broadcast & mix the desired quantity of granules in soil 2-3 days before transplanting.	12.5 gm	25 kg.	-	-
Chilli	Broadcast & mix the desired quantity of granules in soil 2-3 days before sowing.	12.5 gm	25 kg.	-	-
Tomato	Broadcast & mix the desired quantity of granules in soil 2-3 days before sowing.	12.5 gm	25 kg.	-	-
Groundnut	Broadcast & mix the desired quantity of granules in soil 2-3 days before sowing.	12.5 gm	25 kg.	-	-
Triaccontanol 0.1% EW.	To increase the yield				
Cotton	Three sprays at 45, 65 and 85 days after planting	0.25 gm	0.25 ltr.	400-500	-
Rice	Three sprays at 25, 45 and 65 days after transplanting	0.25 gm	0.25 ltr.	400-500	-
Chilli	Three sprays at 25, 45 and 65 days after planting	0.25 gm	0.25 Ltr.	400-500	-
Tomato	Three sprays at 25, 45 and 65 days after planting	0.25 gm	0.25 ltr.	400-500	-
Groundnut	Three sprays at 25, 45 and 65 days after planting	0.25 gm	0.25 ltr.	400-500	-

